

Allergy to hydrocolloid dressings

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Hydrocolloid dressings have been used extensively in the treatment of various types of cutaneous ulcers including the large group of chronic venous leg ulcers. Patients with chronic venous leg ulcers often develop multiple medicament contact allergy (1, 2). Although allergic contact dermatitis is rarely seen caused by hydrocolloid dressings, there have been several reports of this contact allergy. In this article, we report another case and we review the literature on which components in the hydrocolloid dressings have been found to be responsible for an allergic reaction.

Case Story

A 58-year-old woman was treated with the hydrocolloid dressing Duoderm

Table 1. Summary of reports on allergic contact dermatitis from hydrocolloid dressings (n = 37)

Authors	No. of cases	Hydrocolloid involved	Responsible allergen
(1)	2	Granuflex E*	Pentalyn
(3)	1	Duoderm E*	Pentalyn
(4)	5	Varihesive E*	1: polyisobutylene1, 1: Pentalyn and 3: n.i.
	5	Comfeel†	n.i.
(5)	10	Duoderm E*	8: Pentalyn, 2: n.i.
	3	Duoderm*	n.i.
(6)	1	Stoma bag	Polyisobutylene
(7)	1	Duoderm CGF*	Pentalyn
	2	Duoderm E*	Pentalyn
(8)	5	Granuflex E*	Pentalyn
(9)	1	Comfeel plus (R)†	n.i.
(10)	1	Combiderm*	Glycerol ester of rosin

n.i., not identified.

*Manufactured by ConvaTec (Woerden, the Netherlands).

†Manufactured by Coloplast (Amersfoort, the Netherlands).

extra thin (manufactured by ConvaTec, Woerden, the Netherlands) for a leg ulcer caused by chronic venous insufficiency. After a few days, a bulbous reaction was seen under the hydrocolloid dressing. Patch testing resulted in a positive reaction, and the tackifying agent, pentaerythritol ester of hydrogenated rosin, Pentalyn, appeared to be responsible.

Discussion

Besides this report, an additional number of 37 cases on allergic contact dermatitis caused by hydrocolloid dressings have been previously reported (Table 1) (1, 3–10). In 23 of these cases, the responsible allergen was identified, and in 20 cases, the responsible allergen was the tackifying agent Pentalyn.

In quite a few cases, 14 out of 37, the responsible allergen was not identified. Whenever this is the case, the reaction may be because of skin irritation or represent an allergic contact reaction to potentially contaminating unpolymerized substances of the elastomers in the hydrocolloid dressing (5).

Most cases reported are about the hydrocolloid dressing called Duoderm. This name is used in North, Central and South America, in most European, African and Asian countries. Other names for this hydrocolloid dressing are Granuflex (UK and South Africa), Varihesive (Germany), and DuoActive (Japan). These hydrocolloid dressings have an old and a new formulation. The old formulation (Duoderm) only uses polyisobutylene (Vistanex) as tackifying agent. This is also used in chewing gum, insulating tapes, and wound plasters. Vistanex can cause sensitization, how-

ever very rarely (5). About 10 years ago, a new and improved formulation was presented (Duoderm E, Duoderm extra thin, Duoderm CGF). This formulation contained besides Vistanex also Pentalyn as tackifying agent (11). Pentalyn is also used in several other adhesives, for example in personal care applications.

In conclusion, allergic contact dermatitis reactions to hydrocolloid dressings are often caused by the tackifying agent Pentalyn.

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